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Vol. VII, No 1 ♦ Spring 1999

Blast-Related Injuries: Special Considerations for Mass-Casualties Management

by

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TraumaVue

Explosive blasts to civilian structures are becoming all too common, both domestically and abroad. Between 1980 and 1990, there were 12,216 intentional bombing incidents in the United States. Estimates are that intentional U.S. bombings in the last decade of this century will be greatly increased! Blasts can be accidental such as those occurring in factories or fuel depots, or can be intentional such as in terrorism-related events. Large blasts events often result in massive numbers of casualties who can totally overload and incapacitate medical systems that are not pre-prepared to handle the medical consequences of such events.

*Duke Trauma Center
Life Flight/Life Care*

*Duke University Hospital
Durham, North Carolina*

Special preparations, protocols and paradigms need to be pro-actively instituted in order to deal with potential blast events in which the possibility of mass-casualties and/or hazardous materials exposure exists.

Pathophysiology of Blast Injuries: There are at least four separate mechanisms by which blasts can produce injury patterns. These mechanisms are currently classed as; primary, secondary, tertiary, quaternary.

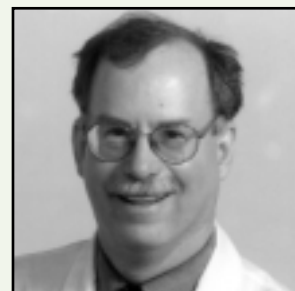
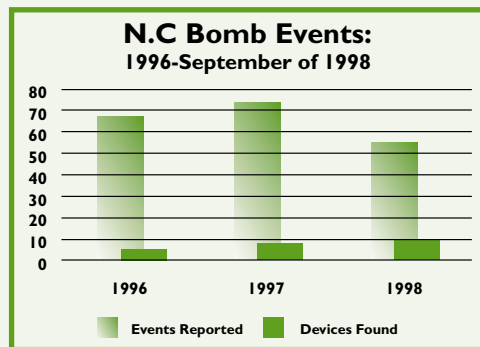
Primary blast injuries are produced by the initial blast wave emanating concentrically from the centerpoint of the explosion. This is a high pressure wavefront (incident pressure) usually measured in kilopascals (kPa) or pounds per square inch (PSI). Upon striking a solid object a reflected pressure wavefront is magnified 2-9 times the original incident pressure. Victims of blasts occurring in enclosed spaces such as buildings or vehicles or who are located between a blast and a solid structure may suffer injuries 2-3 times greater than would be anticipated based on peak blast pressure and distance from the blast center.

The majority of primary blast wave injuries tend to be in areas of tissue-fluid/gas interface, or at tissue boundary-tethering points. A clinical pearl is that victims with ruptured tympanic membranes have been exposed to pressures exceeding 15 PSI and may have been exposed to lethal forces. Most on-scene deaths from blast events are from primary blast injuries

Secondary blast injuries are caused by the blast wind which immediately follows the blast wave. The blast wind is a displacement of air caused by the explosion. This displacement accelerates debris. Injuries occur from debris penetrations in a manner similar to gunshot or shotgun wounds.

Tertiary blast injuries are acceleration/deceleration injuries to which bodies are subjected by the blast wind. Powerful explosions can exert enough force to accelerate large objects in close proximity to the blast such as a human body for some distance. Victims who are exposed to blast wind-related accelerations have a high likelihood of having been exposed to significant primary blast wave forces.

Fourth degree blast injuries are a collection of all other miscellaneous mechanisms of blast-related injury. These include thermal injuries from the heat of the blast and crush injuries such as from collapsing walls. Also, contamination from nuclear radiation, or biological/chemical agent contamination would be classed as 4th degree blast-related injuries.



*Harry W. Severance
MD, FACEP*

In this issue of *TraumaVue*, we have several contributions that are pertinent to the newly formed Duke Regional Advisory Committee (RAC). In the article, "Duke RAC Update", I have outlined the current membership of our RAC. Our organizational meeting of our membership was held at Duke on February 19th, and thanks go to all who participated in that meeting. Claudia McCormick, our Outreach Coordinator, spotlights four of our RAC members in her feature, "Outreach Corner." The next several issues of *TraumaVue* will continue to introduce our RAC members to our general readership.

Our case review of a gunshot wound with a spinal injury highlights the importance of maintaining a high index of suspicion of cervical and other spine injuries in trauma patients. An accompanying cervical spine protocol hopefully can be adopted by all those caregivers in the Duke RAC as a guideline for clearing the c-spine.

Dr. Harry Severance has written a sobering article to ponder relating to blast-related injuries. Although it is easy to think that, in our wonderful state of North Carolina, we are immune from blast events, the reality of the situation is that many of our hospitals in our RAC and in the state are ill-equipped to deal with a mass-casualty event that may also involve hazardous materials. One of our goals in the evolution of the Duke RAC will be to develop protocols and triage criteria, not only for blast injuries, but for other injuries as well. Preparedness is clearly a concept to be nurtured, as is also emphasized in the article, "'P' is for Packaging...", by Cindy Detomo and Karen Johnson, two of our Life Flight nurses. It reminds me of the rule of the "Six P's", which is applicable to many of the aspects of our daily lives: Proper prior planning prevents poor performance.

Steven N. Vaslef, MD
Director, Duke Trauma Center

On-Site Blast Injury Management Considerations: On-site medical management of blast-related injuries involves much more than just treatment of injuries! There are multiple factors to be considered. Of prime importance are 1) the type of blast event and, 2) total numbers of casualties.

First, if there is suspicion of a terrorist-inspired event or chance of hazardous materials (Hazmat) contamination, special on-site rules should fall into play. These include the following. Unprotected health care workers should not enter any terrorist-related blast scene until the possibility of a 2nd blast "come-on bomb", has been excluded. Likewise, if hazmat conditions exist, no one without protective equipment and hazmat training should enter the scene. There are multiple reasons for such restrictions, but chief among them is to avoid unnecessary further casualties which reduce health-care provider resources and further burden the care provider system with unnecessary injuries. Additionally, hazmat-exposed victims cannot be transported to a hospital or other care facility that does not have hazmat-trauma management capability. To do so would contaminate the whole hospital! Special protocols for on-scene management must be invoked in such situations.

Second, what are the total numbers of injured victims in relation to the capabilities of the in-place health care system. If total numbers of treatable victims is small relative to the health-care system capabilities, then standard scene and transport protocols can be utilized. However, if total numbers exceed capabilities of in-place hospital systems, transporting all victims will overburden and shut down they system and result in unnecessary deaths. Such situations call for special protocols for on-scene management and transport.

On-Site Management of Blast Injuries with Mass-Casualties: Special protocols and algorithms must pre-exist to govern on-site activities for such events. Multiple agencies must work quickly and coordinated fashion with a pre-designated event commander who has ultimate event site authority. Outside help, if called, will never arrive in time to assist with initial management. Local law enforcement must activate perimeter control preventing unnecessary entry including "good Samaritan" bystanders, while beginning perimeter search for secondary devices. Fire/Rescue or other *pre-determined* local agency, who have training and equipment for unsafe structures and hazardous materials and detection should be first into a structural blast site. During their first "sweep" of the site, this group should begin to judge the safety of the structure. Is it in danger of imminent collapse? Also, this group will begin to control fires, begin identification of potential hazardous materials or conditions, identify and mark locations of entrapped injured persons, and where possible, assist ambulatory wounded by directing them to safe exit pathways. No victim rescue or aid should begin until some assurance of structural safety is assured. Any un-entrapped, non-ambulatory persons where possible, should be immediately extracted from the blast site and delivered to an event-command-determined triage site. Such patients will be extracted at this time only if adequate numbers of personnel exist to perform this additional function. Patients will be extracted without the usual precautions such as spinal stabilization if such equipment is not **immediately** available! To wait exposes victims to possible second explosions, building collapse and possible continued hazardous materials exposure.

Additional responding personnel will then arrive on the scene. Among appropriate agencies responding will be additional law enforcement, fire/rescue, emergency management personnel, and EMS. There should be a predetermined inter-agency second sweep team or special local team, pre-trained, prepared, and pre-equipped for this phase of the event. This second sweep group will include structural engineers, hazardous material experts with appropriate detection equipment, EMS personnel trained and equipped to operating in unsafe, contaminated structures. This group must have, if deemed necessary by the first sweep team and event command, appropriate hazmat protective gear deemed necessary before entering the site.

TraumaVue

is published Quarterly
by Duke University
Medical Center

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Designed and produced by: Duke Publications Group

Triage Site Protocols: Victims, as self-extracted or transported from the event site should be directed to a designated triage site somewhat removed from the event scene. This site will be determined on-scene by the event commander in consultation with the pre-identified medical triage officer. The triage officer, like the event commander must be pre-selected and pre-trained.

There are many requirements for a blast-scene triage site. The triage site should not be placed in an area likely to be subjected to secondary blasts and the site should not be activated until inspected and determined to be “device-free” before utilization. Walking wounded should be directed toward and allowed to self-ambulate to the triage site. Walking wounded can be a resource if appropriately utilized by assisting with transport of non-ambulatory victims to the triage site, assisting with first aid measures, providing comfort to more severely injured victims, children and serving other similar functions. Pre-planning should incorporate possible roles for “walking-wounded” at the triage site. A clinical pearl is to be aware that victims will not be able to hear verbal instructions secondary to the concussive effects of the blasts. Directions and instructions *must be visual*. Arriving EMS units should be directed to the triage site and begin medical care at the site. Triage decisions, at scenes of mass-casualty events where victim numbers are in excess of the capacity of in-place medical systems, are critical for maintenance of function of the whole medical system. The major caveat is that hazmat-contaminated patients or pre-hospital providers cannot be transported or enter a “hazmat-unready” hospital. Doing so will result in contamination of the whole in-hospital system resulting in morbidity and possible death of all in-patients and health care workers and total collapse of the system. The triage officer must know the hazmat-readiness of the distribution-pattern hospitals.

Depending on availability, there may be outlying hospitals and other care facilities who will not receive red-tag patients, but have capabilities to manage green-tag, transport-stable patients. There should be pre-existing protocols and arrangements established among these facilities for such a situation.

Protocols for In-Hospital Receiving of Mass-Casualty, Hazmat-Contaminated Patients: Local referral hospital and Trauma center hospitals should be prepared for receiving trauma patients from mass-casualty scenes with possible hazmat contamination.

First, the hospitals in any local municipality should develop agreements among themselves and pre-hospital providers on transport patterns for massive numbers of patients. Maximum capability of the local system in patient numbers should be determined, and backup and referral hospital plans for numbers which exceed this maximum should be pre-identified. Other locally available agencies who have capability to rapidly respond and provide health-care support should be identified and protocols developed for incorporating these agencies into immediate management plans.

Second, areas which are to receive trauma patients with possible or known hazardous materials contamination must be specially equipped for such situations. Such areas must be able to be entirely isolated from the rest of the hospital. Some hospitals may wish to consider temporary out-of-hospital venues in which to isolate and manage victims. However the same decontamination rules for re-entry to the hospital apply for victims, care-providers and any other personnel in contact with such areas.

Third, in-hospital care providers who will contact such patients must be trained and appropriately outfitted to manage hazmat-contaminated patients. However, studies have shown that the majority of hospitals in this country are unprepared to deal with such events. Hospitals **cannot** operate in the usual “disaster-drill” mode, in which available care providers are rushed from other areas of the hospital, enlisted in initial care of such patients, then allowed to return to their usual job. Hospitals must determine the maximum number of Hazmat-outfitted and trained care providers available and the total number of patients who can be managed by this group.

Fourth, trauma teams and others who will be called on to contact such patients or handle disposal of materials from such patients and areas must be trained and outfitted to handle such patients and materials.

In-Hospital Emergency/Trauma Center Management of Blast Victims: All patients from blast event scenes should receive a full primary and secondary survey by the trauma team. If potential for hazardous materials exposure exists, the trauma team should be outfitted in protective gear before patient contact! Stabilizing procedures as indicated by the primary survey, as usual, take precedence. Blast injury classification is a useful diagnostic and prognostic evaluation tool during the secondary survey.

TM rupture and/or amputations suggest the possibility of occult truncal injuries secondary to significant blast wave exposure. Such patients may develop evolving pulmonary contusion and ARDS patterns from blast-lung injuries. Patients with significant blast wave exposure should be periodically examined for evolving abdominal pain which is not initially present.

Secondary blast injury penetrations are managed as with other penetrating injuries. Many of these injuries, caused by irregularly-shaped ballistically unsound projectiles will cause injuries similar to shotgun blasts with significant tissue damage and/or loss at the skin surface. Some patients will arrive with impaled or with embedded penetrating objects in-situ which will require removal.

Tertiary blast injury patients will have injury patterns similar to deceleration injuries (blunt trauma) from motor vehicle crashes, or extremity amputations. These patients have been exposed to significant primary blast wave energy as well and are at high risk for occult, evolving blast wave-related injuries.

Fourth-degree blast injuries such as thermal burns and crush injuries are managed with appropriate therapy. Victims receiving biological or chemical contamination must be treated for these injuries.

Summary: Management of mass casualties from terrorist-inspired or environmental/industrial blast events where secondary explosion risks are present and hazardous materials contamination is present or a significant possibility is complicated and requires preparation by all persons and agencies who will be called on to manage such events.

The following are recommendations for preparedness for blast events:

- 1 Local municipalities must develop protocols for inter-agency response, including identification of incident commanders and triage officers.
- 2 Protocols for mass-casualty patient management transports and dispositions must be developed to effectively utilize available resources. Satellite hospital systems should be identified and involved in this process.
- 3 Responding agencies and in-hospital systems need to become hazmat-prepared.
- 4 Outside agencies who are geographically available to assist in on-scene management of mass-casualty situations should be identified and pre-agreements and protocols developed for their utilization.

call

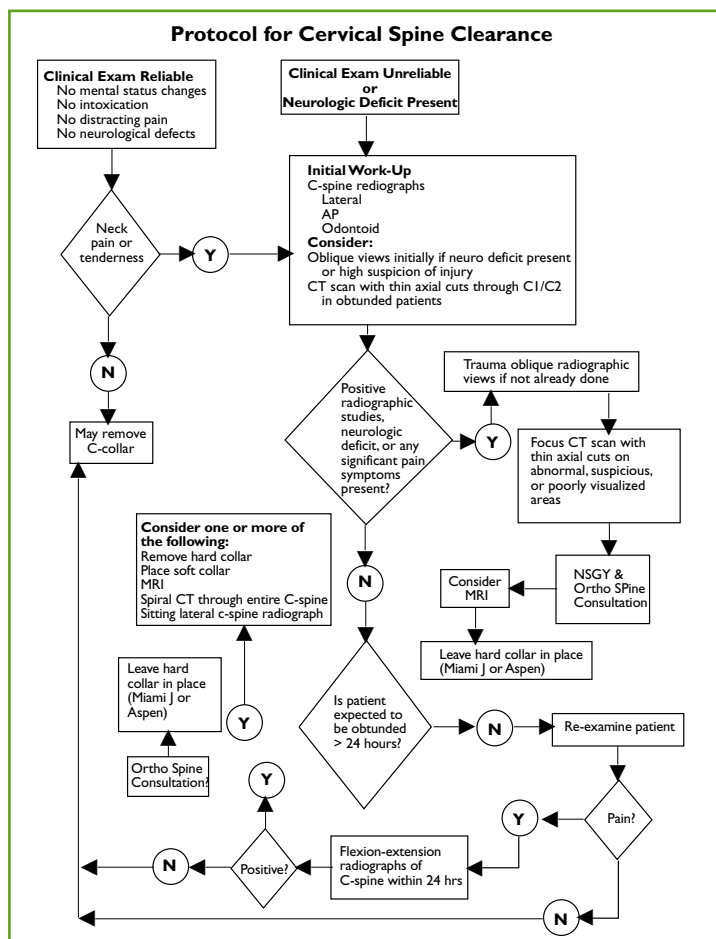
OF THE MONTH:

Gunshot Wound with Spinal Injury

In the early morning hours of a winter day in 1998, Durham County EMS was dispatched to the scene of a gunshot wound in the eastern section of the City of Durham. EMS had a response time of three minutes and stood by for another two minutes waiting for assurance from Durham Police that the scene was secure and they could come on in. Upon patient contact, EMS and Durham Fire Department First Responders found a young male lying prone on the ground with multiple gunshot wounds. Entrance wounds were found to the right scapula, left pelvis, and the left hand with no exit wounds noted. The patient had a heart rate of 88 and respirations of 22. Breath sounds upon assessment were equal and clear to both sides. The abdomen was not rigid or tender to palpation. His initial neuro-sensory motor function assessment showed minimal movement of the lower extremities. The patient's clothes were removed prior to moving him to a long spine board. He was then rapidly moved to the stretcher and to the truck. EMS was on the scene less than five minutes and enroute to Duke Emergency Department running hot. The patient was placed on a non re-breathing mask at 15 liters/minute and two 16 gauge IV's with Lactated Ringers Solution were initiated. The patient's breath sounds were reassessed without change. The patient remained alert and oriented while enroute to Duke. The secondary assessment was unremarkable. Upon arrival at Duke, the patient had received approximately 750ccs of LR.

As EMS providers, we found this to be an interesting case. We, as EMS responders, should always maintain a high index of suspicion for spinal injury

anytime a bullet enters the head, face, neck or torso. Once the bullet enters the body, no one knows where it has traveled until x-rays and CT have been completed and the results thoroughly evaluated. All patients with gunshot wounds in these areas should be immobilized until ruled out at the hospital emergency department. Good neurological assessments of sensory and motor function must be performed prior to, and after moving the patient to the long spine board with complete immobilization. These assessments must be documented clearly and concisely so as to leave no interpretations open for questions. It is our responsibility to assure what we are doing is in the best interest of the patient. We, as EMS providers, should also limit our scene time. Airway and severe bleeding should be immediately addressed; the patient should be immobilized and moved to the ambulance where other treatments can be performed enroute to the hospital. A short, concise report should be provided to the emergency department so they can prepare for the arrival of the patient. Only pertinent information should be given. There is no need for a long report to the hospital; keep it brief and to the point. Your patient, yourself, and the emergency department will benefit greatly.



Cervical Spine Clearance

The "clearance" of the cervical spine can be a very dicey issue, particularly in patients with altered level of consciousness due to either head injury or alcohol/substance abuse. Patients with distracting pain, such as from a femur fracture, may also have unsuspected spine injuries based on the clinical examination. Because of the potentially devastating nature of spine injuries, it is imperative to maintain a high level of suspicion for such injuries and immobilize all patients who have a significant mechanism of injury. It is also important to realize that patients may have a significant cervical spine injury due to ligamentous disruption that may not appear on standard radiographs of the c-spine. Therefore, we, as well as the other trauma centers in the state, have adopted the guidelines shown here for the clearance of the c-spine.

“P” Is For Packaging...

by Cindy Detomo, RN and Karen Johnson, RN

...Not for “pain”, which it can be to prepare a patient for transport according to Life Flight/Life Care policies. Although I’ve had lots of comments about why these things need to be done, there never seems to be time at that point to explain the rationale. So here goes.

We’ll begin with trauma patients. ANY multiple trauma patient with an injury < 24 hours old MUST be fully C-spine immobilized—which includes a long spine board, collar, head immobilizing device, and straps to secure the patient to the board. Many patients have had their c-spine “cleared” prior to transport at the outside facility and have been taken out of immobilization. The fact is that many patient’s have had a one shot, lateral cross table view and when repeated in multiple views at the tertiary care facility, they have c-spine injuries. We re-immobilize all these trauma patient’s for safety during transport. Any of you who have taken trauma courses are familiar with the thought process to assume there is a neck injury with a head injury. Furthermore, many multitrauma patients have ingested substances which alter their judgment, thought processes, behavior, etc in ways that can be harmful to a crew, especially in a small aircraft. It works well to have those people strapped every which way! Anyone on a board must be secure enough to it that we can pick them up and turn them on their side if they vomit (without falling off the board).

Any trauma patient whose level of consciousness is altered to the point of not being able to protect his airway, is already combative, or has a high cervical fracture is likely to get intubated prior to transport. It is extremely difficult to intubate patients in the aircraft in a less controlled environment with only one helper. Our philosophy is to avoid this situation and be proactive while in the hospital. All trauma patients who are not intubated will receive supplemental oxygen, usually via a 100% non-rebreather mask.

Cardiac patients generally will need three IVs, two at the least. We like to have one line without meds infusing in the event we have to push code drugs. A patient whose respiratory status is tenuous on the ground WILL decompensate in the air. The anxiety that occurs with leaving home, saying goodbye to family, being put in a helicopter, is often all that’s needed to push them over the edge. These patients will get intubated prior to transport. To optimize care of patients with CPAP, BiPAP, or any potential airway compromise, ventilator support is preferred.

Our procedures for packaging patients were established to keep our patients (and crews) safe, and deliver the highest possible level of care during transport. We try to plan ahead of time for the unexpected because it is difficult to deal with those situations while you’re bouncing down a road or in the air.

No family member is able to fly with us in the aircraft. The policy for the ground units is the same, but in rare instances, exceptions have been made. This is strictly an insurance issue and we have been told by our carrier that we may not take extra passengers. It is best to tell the family up front that they may not come with us by air or ground.

We have the patients best interests and welfare in the front of our minds at all times and are so grateful for all you do to help us in our mission.

Thank you to Mary Anne Bosher, RN, MSN and Midge Bowers, RN, MSN for their editorial assistance.



Cindy Detomo, RN

The fact is that many patients have had a one-shot, lateral cross table view and, when repeated in multiple views at the tertiary care facility, they have c-spine injuries.

Duke RAC Update

By Steven N. Vaslef, MD, PhD



In our last edition of TraumaVue, I outlined the basics of the Regional Advisory Committees (RACs) that the North Carolina Office of Emergency Medical Services has mandated for the development and improvement of trauma care within the state. The February 1st deadline for all hospitals to choose a RAC to affiliate with has come and gone, so we now have our RAC membership taking form.

Within the state of North Carolina there are seven RACs: 1) Mountain Area Trauma RAC, based at Mission St. Joseph's Hospital in Asheville; 2) Metrolina Trauma RAC, based at

Carolinas Medical Center in Charlotte; 3) Triad RAC, jointly based at Moses Cone Memorial Hospital in Greensboro and Wake Forest University Baptist Medical Center in Winston-Salem; 4) Southeastern Trauma RAC, based at New Hanover Regional Medical Center in Wilmington; 5) Eastern RAC, based at East Carolina University - Pitt County Memorial Hospital in Greenville; 6) MidCarolina Trauma RAC, jointly based at UNC-Chapel Hill and Wake Medical Center in Raleigh; and 7) Duke RAC, based at Duke University Medical Center.

Some hospitals have chosen to join more than one RAC, but the state has required such hospitals to choose a primary, or administrative RAC, and a secondary RAC (or RACs).

We are proud to announce the following members of the Duke RAC (asterisks denote hospitals that chose the Duke RAC as their Administrative RAC, all other hospitals chose the Duke RAC as their secondary RAC):

Duke RAC

Hospital	County	City
Durham Regional Hospital*	Durham	Durham
Durham VA Medical Center*	Durham	Durham
Person County Memorial Hospital*	Person	Roxboro
Granville Medical Center*	Granville	Oxford
Maria Parham Hospital	Vance	Henderson
Franklin Regional Medical Center*	Franklin	Louisburg
Nash General Hospital*	Nash	Rocky Mount
Raleigh Community Hospital*	Wake	Raleigh
Rex Healthcare	Wake	Raleigh
Johnston Memorial Hospital*	Johnston	Smithfield
Central Carolina Hospital*	Lee	Sanford
Bladen County Hospital	Bladen	Elizabethtown
Columbus County Hospital	Columbus	Whiteville
Southeastern Regional Medical Center*	Robeson	Lumberton
Scotland Memorial Hospital*	Scotland	Laurinburg
Hamlet Hospital	Richmond	Hamlet
Community General Hospital	Davidson	Thomasville
Alamance Regional Medical Center	Alamance	Burlington
Highsmith-Rainey Hospital	Cumberland	Fayetteville

We welcome all of the members to the Duke RAC and look forward to working with each of you. The first couple of meetings will be dedicated to organizational issues, thereafter the meetings will focus on quality improvement issues, education, legislation and trauma care.

Outreach Calendar

April

- 16 - 17 ATLS
- 20 Yearly ATS Dinner and Meeting, Hickory
- 21 NC ATS, Trauma Nurse Coordinators, Trauma Registrars, RAC Meetings, Hickory
- 22 - 23 NC ENA Convention, Fayetteville
- 26 Critical Care Trauma: Nursing Implications
8 hour lecture for any health-care worker caring for trauma patients
Duke

May

- 3 Pediatric Trauma Workshop, SERAHEC, Fayetteville
- 10 Abuse in ALL Ages
8 hour lecture for any health-care worker caring for the trauma patient
Duke
- 16 - 22 EMS Week
(Northgate Mall 20 - 22)
- 18 NCA Conference
full day conference designed for the NCA
Duke
- 22 Enfield EMS Day, Enfield

June

- 23 - 24 ATLS

July

- 8 - 9 ATLS

September

- 26 - 28 NCOEMS Emergency Medicine Today Conference, Greensboro, 919-733-2285



Outreach Corner

Hello, Everyone,

The RAC has been identified and we have had our first organizational meeting. Yea! What an exciting time for trauma care in North Carolina and for us here at Duke. My thoughts for the next few newsletters are to focus on the RAC membership. Following are a short synopsis about each RAC member.

There is no special order for my reviews just whichever notes I picked up first.

Southeastern Regional Medical Center (SER)

As the only hospital in Robeson County SER is extremely busy with about 68,000 visits per year. A large number of their admissions are trauma patients from I-95 MVC's. Things are kept in good control, however, with Medical Director Dr. Bruce Whitman, Nurse Manager Robbie Willis, Director of Critical Care Services Teresa Barnes, and VP of Patient Services Gail Davis. A special welcome to Dr. Whitman, who is new to the North Carolina area. Lumberton is also a base for a Duke Life Care Truck.



SER ER entrance

Nash Health Care System

Rocky Mount can be proud of their hospital emergency department. Hospital Administrator Dr. Peter Muller, ED Medical Director Dr. Kirk Jenson, and Trauma Nurse Coordinator Mitch Babb, RN (also ED Asst. Nurse Manager) run a top-notch system. This is a growing place, with 56,117 visits per year and 427 trauma admissions.

The Emergency Nurses' Association (ENA) has presented Nash Health Care Systems Emergency Care Center (ECC) with the 1998 Award of Excellence, describing it as the "best practice clinical site" in America. Nash Health Care Systems Emergency Care Center participated in a collaborative on reducing waiting times in the ECC. Results: 1) Decreased wait time in Fast Track by more than 50%, 2) Decreased wait time in the main Emergency by 40%, 3) Improvements were made in spite of a 21% increase in patient volume since January 1997. Current throughput times for Fast Track: 44 minutes. Current throughput times for Main ECC: 1hr 50mins. Nash Health Care Systems will request RFP from the state January 1999 for Level III designation.

Message from Nash to all - 'Your friends and colleagues at Nash Health Care Systems Emergency Care Center look forward to working with all of you in our future endeavors. Mitch Babb'

Granville Medical Center

Kristi Perkins is the Nurse Manager of Granville Emergency Department.

While the ED is small, five beds, it can be hopping. Granville recently hosted a Trauma Stabilization course, which included participants from Granville Medical Center, Granville EMS, and Person County Hospital. Joseph Pollard is the Hospital Administrator who keeps everyone and everything running smoothly.

Central Carolina Hospital

Pat Warren, RN Emergency Department Director describes her facility beautifully in the following paragraph.

Central Carolina Hospital Emergency Department in Sanford, NC operates 24 hours a day, seven days a week and has full time emergency physician coverage with physician assistants. We are staffed by RNs, LPNs, NA Is, NA IIs, and secretary representatives. The department is a 15 - bed unit including trauma beds and a specialized casting room. We operate an Express Care area from 5pm to 12 midnight during the week and from 12 noon to 12 MN on the weekends. We can accommodate minor injuries and illnesses for our community. To complement our emergency care we have available a modern helipad to allow transportation for any Central Carolina patient. The emergency Department serves the general public in all areas of health care, i.e. medical, surgical, psychiatric, OB/GYN, geriatrics, minor/major trauma, minor/major cardiac. In addition to the emergency physicians on duty in the emergency department, there are over 25 medical specialists on call if the need arises. The Emergency Department sees about 25,000 patients a year and is growing. We are looking forward to working with this group.

Well, there is a little scoop on a few of the Duke RAC members. There will be more info in the next letter.

***Be safe and healthy
Claudia***

Although trauma care and managed care share similar characteristics, other areas where conflicts exist are fundamental and obstructive to a mutually beneficial relationship. The future viability of trauma centers in the age of managed care depends on resolving the following issues in a manner that meets the goals of optimal trauma care and cost effective managed care.

Patient Destination and Decisions

Issues with patient destination from a managed care perspective exist because of their attitude that trauma centers with whom they have no contractual relationship are not cost effective. The term “out-of-plan, out of control” is used to portray the MCO’s lack of faith in the trauma center’s ability to cut costs and bill equitably for care rendered. MCO’s want their patients directed to hospitals that are accountable to them for costs, care and quality. MCO-Member hospitals give considerable weight to the desire of MCO’s to avoid high cost/low benefit procedures, drugs, and tests and limit the patient’s access to various consultant’s services.

Payment for Care

Trauma care has held fast to fee-for-service health care and is insulated from the market pressures of managed care since MCO’s do not control patient destination. Trauma hospitals have generally excluded trauma care from their managed care contracts or discounted charges.

There are few prospective pricing agreements in place that foster resource conservation.

Market forces are changing: HCFA waivers to restructure Medicaid into managed care systems are becoming more prevalent, making a large portion of trauma care “managed” even in regions of low managed care market penetration. Where there is a strong managed care presence, MCO’s are under intense pressure from employers and competitors to reduce costs, reduce premiums, and squeeze costs out wherever possible. In regions where the managed care market has reached maturity, consolidation among plans is increasing their clout with specific trauma care providers, creating a shift back toward the payers.

Early Transfer versus Continuity of Care

Trauma care’s relationship with managed care has focused on cost shifting, and price gouging in some cases. Managed care organizations have responded with even more aggressive efforts to transfer patients out of trauma centers, sometimes inappropriately, leaving the trauma center with a greater concentration of high cost, low reimbursement patients. The trauma center’s operations and its ability to track patients over the continuum of care is disrupted by early transfers. Quality of care becomes an issue because the receiving hospital lacks the specialized resources required for treating the swiftly occurring and unanticipated complications which are latent cause of death and morbidity after injury.

Prospective versus Cost-based Payment

MCO’s manage their member’s health care dollars by allocating payment per covered lives or per case, a payment method that promotes resource conservation. Trauma centers bill for trauma care based on costs, with mark-ups for overhead, education/research and uncompensated care. Trauma center physician’s services bill separately for the patient’s treatment. MCO’s greatly dislike the trauma center’s fragmented approach to billing for patient care and want to write one check. The trauma center is incapable of accounting for its global costs of care and does not have the structure to accept a single payment.



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